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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/621,526 | 07/18/2003 | Akio Yamamoto | 0229-0765P | 1175 |
| 2292 | 7590 | 04/17/2006 | EXAMINER | |
| BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747 | | | HUNTER, ALVIN A | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3711 | |

DATE MAILED: 04/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/621,526 | Applicant(s) YAMAMOTO, AKIO | |
| | Examiner Alvin A. Hunter | Art Unit 3711 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,8,10-15 and 17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2,8,12 and 17 is/are allowed.
- 6) ☒ Claim(s) 1,3-6,10,11 and 13-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-6, 10, 11, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iizumi et al. (JP 10-179817) in view of Knuth (USPN 6659885) and Helmstetter et al. (USPN 6325728) further in view of Hasebe et al. (USPN 6340337) and Sanpei (JP 11-155982).

Regarding claims 1 and 3-6, Iizumi et al. discloses a club head having a volume and comprising a hollow body having a face portion and a sole portion each made of a metal material wherein the hollow body has a structure which produces a ball-hitting frequency of around 6 to 8 kHz. Iizumi et al. does not disclose the club head having a volume of 355 to 450 cc or the sole's surface area. Knuth discloses a club head in which produces a favorable frequency, wherein the club head is made of metal and suggests that the invention may also be incorporated into club head that are greater than 400 cc (See Background of the Invention and Column 7, lines 53 through 64). One having ordinary skill in the art would have found it obvious to have a club head of such size, as taught by Knuth, in order to reduce mishits. Helmstetter et al. discloses a sole geared to large size club heads wherein the surface area of the sole is 7 to 11 in², or 4516 to 7097 mm² (See Column 4, lines 58 through 61). One having ordinary skill in

Art Unit: 3711

the art would have found it obvious to incorporate the surface area of the sole taught by Helmstetter et al. into the club head of Iizumi et al. in order to optimize the moment of inertia of the club head. Iizumi et al. in view of Kruth and Helmstetter et al. does not disclose the sole having a front part and back part next to the front part. Hasebe et al. discloses a club head having a sole having a front part and a back part in which the front part is thicker than the back part (See Paragraph bridging columns 5 and 6). Hasebe et al. also shows the front part extending from toe to heel (See Figures 7 and 8). One having ordinary skill in the art would have found it obvious to incorporate a sole having a front and back part to that of the combination above in order to adjust the center of gravity of the club head. Also Sanpei et al. discloses a club head having a sole in which the front part is thicker than the back part wherein favorable hitting sound and the center of gravity is optimized wherein the front part has a thickness of 1.5mm and the back part has a thickness of 1mm (See Entire document). One having ordinary skill in the art would have found it obvious to have such a relationship to produce a favorable hitting sound in conjunction with optimizing the center of gravity of the club head. It is also submitted that both Hasebe et al. and Sanpei et al. naturally disclose the ratio of the front part to back part thicknesses being greater than 0.5 but less than 1.

Regarding claims 10, 11, and 13-15, Applicant does not set forth why it is essential for the front part's rear edge to be located in the middle of the sole portion. Page 6, last paragraph, set forth that the position of the front part's rear edge may be placed in various positions. Hasebe et al. discloses the rear edge of the front part located at 1/3 of the sole's length (See Column 6, lines 22 through 41). One having

Art Unit: 3711

ordinary skill in the art would have found that the sole of Hasebe et al. would capable of performing the same function as that of the applicant; therefore, making the location of the rear edge an obvious matter routine optimization.

Allowable Subject Matter

Claims 2, 8, 12, and 17 are allowed.

Response to Arguments

Applicant's arguments with respect to claims 1-6, 8, 10-15, and 17 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alvin A. Hunter whose telephone number is (571) 272-4411. The examiner can normally be reached on Monday through Friday from 7:30AM to 4:00PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Kim, can be reached on 571-272-4463. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

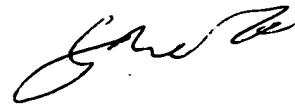
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

Art Unit: 3711

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alvin A. Hunter, Jr.



EUGENE KIM
SUPERVISORY PATENT EXAMINER